

REMARKS

Claims 1, 11 and 13 have been amended. Claims 19-21 have been added. Claims 1, 3 and 11-19 are pending.

Applicant asks that all claims be examined in view of the amendment to the claims.

Claim Rejections – 35 U.S.C. 103

The Final Action rejected claims 1, 3 and 11-15 under 35 U.S.C. 103 as unpatentable over Komori et al. in view of Hsieh et al.

Claims 1, 11 and 13 have been amended to recite “a high voltage MOS transistor.” Further, claim 1 has been amended to recite forming “a thick gate insulating film of the high voltage MOS transistor.” Similarly, claims 11 and 13 have been amended to recite forming “a thick gate insulating film on the region where the high voltage MOS transistor is to be formed.

A thick gate insulating film is distinguished from a thin gate insulating film in that the thick gate insulating film is necessary to for withstanding a high gate pressure associated with a high voltage MOS transistor. A thin gate insulating film is used in normal voltage MOS transistors.

Komori et al. discloses only the normal voltage MOS transistor, which have a thin gate insulating film of approximately 200-250 Angstroms. *See, for example*, col. 5, lines 35-38. Hsieh et al. does not even disclose a MOS transistor at all.

In contrast, the present application recites a thick gate insulating film. The oxide film (12) can be formed by “selective oxidation.” During the thermal oxidation step, a thick gate insulating film (13) can be simultaneously formed having a thickness of about 150 nanometers (1500 Angstroms) in the region where the high voltage MOS transistor is to be formed. Page 9, line 19 to page 10, line 1.

Thus, it would not have been obvious to apply the teaching of Hsieh et al to Komori et al. because neither reference discloses a high voltage MOS transistor requiring a thick gate insulating film.

Further, the cited references do not teach or suggest the combination of the present application. In particular, the gate insulating film (8) of Komori et al. is formed simultaneously as a continuous layer as shown in Fig. 4. There is no suggestion in Komori et al. that it would be desirable to form the oxide film and the gate insulating film selectively as recited in claims 1, 11 and 13.

The Final Action states that combined teachings of Komori et al and Hsieh et al. teach simultaneously and selectively forming the oxide layer on the floating gate and the thick gate insulating film on the region where the high voltage MOS is to be formed. However, the Office Action does not identify a location in Komori et al or Hsieh et al that suggests the desirability of selectively forming the layers in question and applicant finds none.

Thus, the pending claims are not obvious over Komori et al. in view of Hsieh et al. because there is no suggestion of the desirability of combining the references to simultaneously and selectively form the layers as recited in claims 1, 11 and 13.

Claims 3 and 12-16 depend from one of claims 1, 11 and 13 and should be allowable for at least the same reasons.

New Claims

Claims 19-21 have been added. The added each of the claims recites a thickness of the thick gate insulating film. Support for the claims is found in the specification at page 9, line 19 to page 10, line 1. No new matter has been added.

Miscellaneous

The Applicants note that the following amendments were included in their reply of September 23, 2003 to the Final Action of July 2, 2003, which was requested to be entered when the Request for Continued Examination was filed November 3, 2003.

The claim objection in paragraph 5 was addressed by adding the word "film" after "the remaining oxidation-resistant" in claim 13 line 15 as noted in the Office action.

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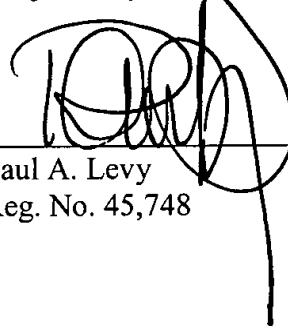
The 35 U.S.C. 112 rejection was addressed by amending claim 16 to recite the limitation "selectively etching the tunnel insulating film except from on the region of the semiconductor substrate where the MOS transistor is to be formed."

Conclusion

All pending claims are in condition for allowance.

The Applicants do not believe that there are any fees due for this amendment. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Paul A. Levy", is written over a horizontal line. The signature is stylized with loops and a long vertical stroke extending downwards.

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